

WHAT IS CLAIMED IS:

1 1. A waveform monitoring apparatus, comprising:
2 a hydraulic cylinder, incorporated in an injection molding device for
3 ejecting a molding material;
4 a sensor, generating pressure data of the hydraulic cylinder;
5 a determinant, forming a measured value waveform based on the
6 pressure data, and determining that whether the pressure data exceeds a
7 reference pressure waveform by a predetermined range; and
8 a marking applier, applying a marking to an excess portion of the
9 measured value waveform determined by the determinant.

1 2. The waveform monitoring apparatus as set forth in claim 1, further
2 comprising a display which displays the measured value waveform having the
3 excess portion to which the marking is applied.

1 3. The waveform monitoring apparatus as set forth in claim 1, further
2 comprising a sorter which sorts a product formed from the molding material,
3 wherein the determinant outputs a determination signal indicating
4 whether the pressure data exceeds the reference pressure waveform by the
5 predetermined range to the sorter.

1 4. The waveform monitoring apparatus as set forth in claim 1, wherein
2 the determinant stops an injecting operation of the injection molding device
3 when the measured value waveform in which the pressure data exceeds a

4 reference pressure waveform by a predetermined range is continuously
5 detected more than a predetermined times.

1 5. The waveform monitoring apparatus as set forth in claim 1, wherein
2 the determinant sets a upper limit range and a lower limit range with respect to
3 the reference pressure waveform as the predetermined range.

1 6. The waveform monitoring apparatus as set forth in claim 1, further
2 comprising a storage which stores the measured value waveform to which the
3 marking is applied.

1 7. A method for monitoring a waveform, comprising the steps of:
2 generating pressure data of a hydraulic cylinder incorporated in an
3 injection molding device for ejecting a molding material;
4 forming a measured value waveform based on the pressure data;
5 determining that whether the pressure data exceeds a reference
6 pressure waveform by a predetermined range; and
7 applying a marking to an excess portion of the measured value
8 waveform determined in the determinant step.

1 8. The method as set forth in claim 7, further comprising the step of
2 displaying the measured value waveform having the excess portion to which
3 the marking is applied.

1 9. The method as set forth in claim 7, further comprising the step of

2 outputting a determination signal to a sorter which sorts a product formed from
3 the molding material,
4 wherein the determination signal indicates that whether the pressure
5 data exceeds the reference pressure waveform by the predetermined range.

1 10. The method as set forth in claim 7, further comprising the step of
2 stopping an injecting operation of the injection molding device when the
3 measured value waveform in which the pressure data exceeds a reference
4 pressure waveform by a predetermined range is continuously detected more
5 than a predetermined times.

1 11. The method as set forth in claim 7, wherein the predetermined range
2 is set a upper range and a lower range with respect to the reference pressure
3 waveform.

1 12. The method as set forth in claim 1, further comprising the step of
2 storing the measured value waveform to which the marking is applied.